The present invention further relates to methods for producing a polypeptide comprising (a) cultivating a homologously recombinant cell, having incorporated therein a new transcription unit comprising a promoter of the present invention, an exon, and/or a splice donor site operably linked to a second exon of an endogenous nucleic acid sequence encoding the polypeptide, under conditions conducive for production of the polypeptide; and (b) recovering the polypeptide. The methods are based on the use of gene activation technology, for example, as described in U.S. Pat. No. 5,641,670.

In the second step, an intermediate plasmid is prepared from plasmid pVL by inserting the CMV IE enhancer-promoter and first exon splice donor, and the human .alpha.1 globin second exon splice acceptor. This intermediate plasmid is prepared from three DNA fragments: 1) a vector fragment of 3.0 kB prepared by digesting plasmid pVL with HindIII and EcoRI, 2) a DNA fragment of 0.9 kB containing a CMV IE promoter-enhancer and first exon splice donor (nucleotides -674 to -19, coordinates referenced to Boshart et al. (1985) Cell 41, 521-530), prepared by PCR using the plasmid pCM5027 containing the PstI m-fragment from HCMV strain AD169 (Boshart et al., Ibid) as template with oligonucleotides 31 and 32 as primers, followed by digestion with HindIII and SphI, and 3) a DNA fragment of 0.1 kB containing the human al globin second exon splice acceptor (nucleotides 6808 to 6916, coordinates by reference to GenBank, accession number J00153) prepared by PCR using plasmid ppSVaHP (Treisman et al. (1983) Proc. Natl. Acad. Sci. 80, 7428-7432) as a template with oligonucleotides 33 and 34 as primers, followed by digestion with SphI and EcoRI. Oligonucleotides 31, 32, 33 and 34 incorporate HindIII, SphI, SphI and EcoRI restriction sites at their respective ends. In the third step, plasmid pVL-1 is prepared by inserting the